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Recent results from the LUX dark matter search experiment

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The LUX dark matter search experiment, the world's largest dual-phase xenon time projection chamber, is installed 1478 m underground at the Sanford Underground Research Facility in Lead, SD, USA. In this talk I will present the results from the first WIMP search run of LUX: from a total exposure of 85 live-days, we found no evidence of signal above expected background, constraining the spin-independent WIMP-nucleon scattering cross section above 7.6×10^{-46} cm² at 33 GeV/c² WIMP mass (90% C.L.) - three times more sensitive than any competing experiment. The improvement in sensitivity is more significant at low energies, and is in conflict with low-mass WIMP signal interpretations of other results.

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